ODACoDec. Coder-decoder for multimedia documents based on the ODA standard (ISO-8613)

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Background. Even if we imagine an extended and generalized adoption of standards that are specific for the medical field, such as DICOM, HL7, etc., the health care system involves such a broad range of activities (and therefore systems) that the need to develop formats for interchange between open systems becomes evident. In order to "open" the systems, it is first necessary to adopt interchange formats for standardized information. CEN/TC251/WG1-7; ANSI-HISPP, etc., consider the possibility of using standards previously established in other fields. With regard to interchange formats, in project PT004 (TC251/WG3), ODA (Open Document Architecture, ISO 8613) was one of the highest rated formats.
Our laboratory has undertaken a line of work to study the viability of the ODA standard as a solution to the problems involved in the storage, edition, viewing and transfer of multimedia documents between different systems for documentation processing and management; the fruit of this effort is the ODACoDec system.

System. ODACoDec is a coder-decoder that permits the open transfer of documents, concealing the heterogeneity of the systems through the utilization of the ODA
interchange format, ODIF (Open Document Interchange Format), as the intermediary interchange format. ODACoDec is composed of four integrated modules:

- **Coding module: ODACod**

This module extracts all the support information or metadata necessary to reconstruct the structure and contents of the document according to the ODA architecture.

- **Decoding module: ODADec**

The decoding module takes a file containing a document in ODIF format as input and introduces the document into the Departmental Information System (DIS) database, once it has been coded in the proprietary formats of said database

- **Communications module: ODACom**

All the communications software (XProtocol, FTP, etc.) converge in TCP/IP, allowing the transfer to take place over different physical networks: STN, ISDN, Ethernet, etc....

- **Tool for management of ODA documents: Browser**

The management tool (browser) for ODA documents enables their analysis, viewing and edition and interacts with the rest of the modules comprising the ODACoDec prototype, integrating them into a single tool by means of a manageable, user-friendly interface.

Results. ODACoDec has been tested in the local area network of our hospital, using patient folders (from the Neurology Service DIS) based on the project PT011 prestandard EHRC (Electronic Health Care Record Architecture). It was found to be effective in the open interchange of multimedia patient folders, as well as in their edition, processing and viewing. The performance of the prototype implemented was deficient when it came to processing ODA documents because of their complexity and volume, since the standard introduces a high degree of redundancy. Video is soon to be included, and its content architecture is now pending publication.

Referencias

1. ISO 8613. *" Information Technology - Open Document Architecture (ODA) and Interchange Format".*
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